Sempervirens
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The Quarterly of the Virginia Native Plant Society

Whatever happened to the Snapdragon Family?

Article and images by W. John Hayden, Botany Chair

Figure 1. *Chelone glabra*, White Turtlehead, a former "scroph" now classified in Plantaginaceae.

If the White Turtlehead, *Chelone glabra*, had been chosen Wildflower of the Year way back in the early days of VNPS, the brochure for this plant would have indicated Turtleheads to have been classified in the Snapdragon Family (Scrophulariaceae). In those early days of our society, the Snapdragon family was understood to include an impressive 54 species of native and naturalized plants in Virginia. But times change, and now, the 2024 VNPS Wildflower of the Year is classified in a completely different family, the Plantaginaceae. In fact, there are only eight plant species found in Virginia that remain classified in Scrophulariaceae, three of these are native species and five are introduced from elsewhere. Whatever happened to the Snapdragon family?

The short answer is DNA sequencing and phylogenetic systematics. Incorporation of DNA sequence data in systematics provides a large body of brand-new taxonomic data and the principles of phylogenetic systematics provide a new framework for the analysis of relationships. As new data and new analytical approaches were applied to Scrophulariaceae, the result was a realignment of many of the plants that had been traditionally classified in that family. Considered just from the perspective of external appearance, without benefit of broader context, linking *Chelone* (Figure 1) with plants like *Plantago* (Figures 2, 3) might seem preposterous. The underlying science is, however, compelling and the current placement of *Chelone* in Plantaginaceae is a well-accepted conclusion.

As traditionally conceived, i.e., prior to the current millennium, Scrophulariaceae ("scrophs" in plant systematics jargon) would have been characterized as plants with tubular corollas (usually), bilateral symmetry (usually), numerous ovules attached to the central axis of the ovary, capsular fruits, and seeds that contain food storage tissue known as endosperm. *Chelone* fits easily with those core characteristics of traditional Scrophulariaceae. To be honest, however, there are several other families of plants that share many of these same characteristics. Consequently, a significant feature of its traditional definition was the *absence* in Scrophulariaceae of the special characters that define these other, closely related, families. Reliance on absence of characteristics is not a robust way to define any

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Figures 2, 3. *Plantago rugelii* classified in Plantaginaceae. 3. Rosette growth habit. 4. Inflorescences.

Figures 4—7. Former "scrophs" now classified in Plantaginaceae. 4. *Bacopa caroliniana*, Carolina Water-hyssop. 5. *Linaria canadensis*, Blue Toadflax. 6. *Penstemon canescens*, Gray Beard-tongue. 7. *Veronicastrum virginianum*, Culver's-root.

Snapdragon Family

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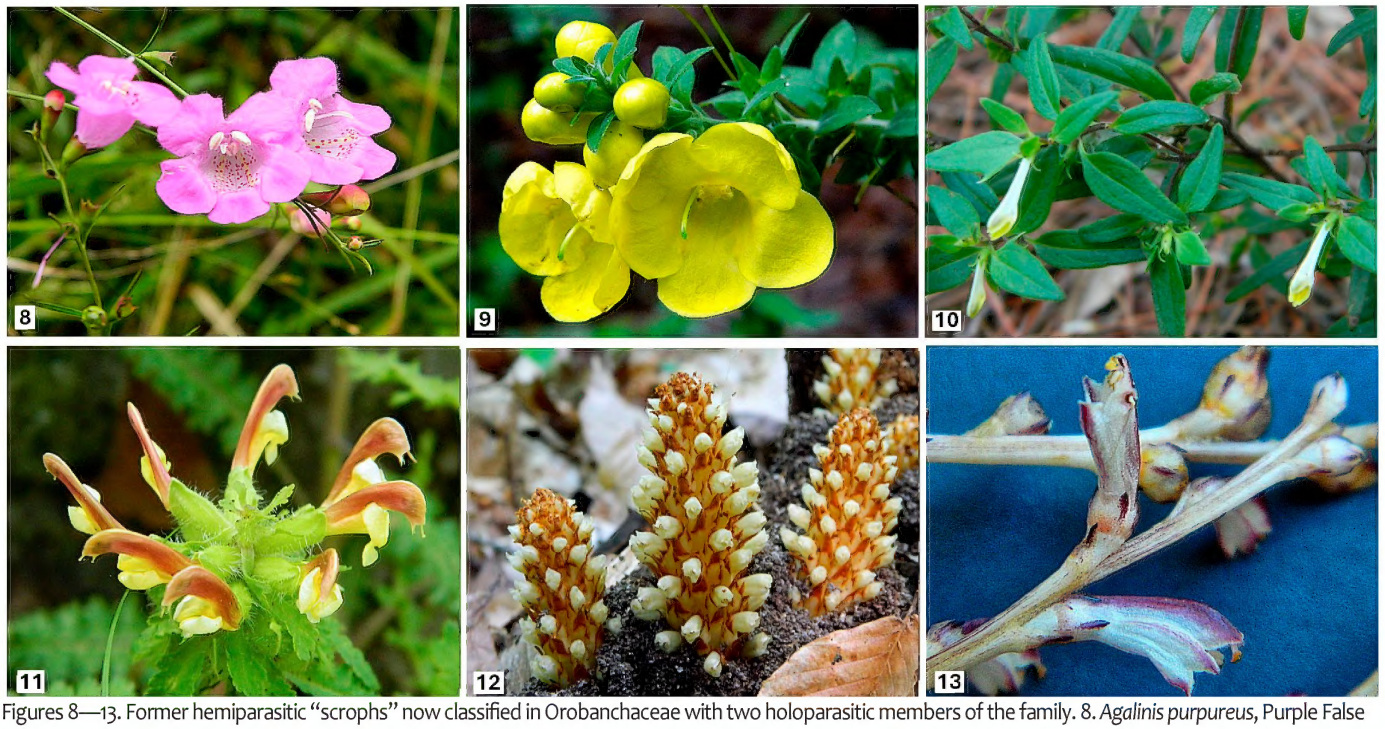
taxonomic group. And this is where DNA sequence data and principles of phylogenetic systematics came in. In general, DNA data has been able to distinguish several distinct lineages among the plants traditionally included in Scrophulariaceae, lineages that were not fully manifest in terms of macroscopic morphology. And by the principles of phylogenetic systematics, distinct lineages of organisms should be recognized as formal taxonomic groups. The details are actually more complicated, but this brief sketch will do as an overview.

From a global perspective, the traditionally defined Scrophulariaceae was a rather large family consisting of, perhaps, as many as 275 genera and some 5,000 species. We don't have the space in this short article (nor do I have the requisite expertise) to address the fate of all the plants that once were classified in Scrophulariaceae. Instead, here, we will focus on groups found in Virginia that had, in the past, been classified in Scrophulariaceae.

By far, the largest group of former Scrophulariaceae known to occur in Virginia, including our three species of *Chelone*, became re-aligned with Plantaginaceae—not an outcome that anyone would have predicted based on morphology alone. Like *Chelone*, the "scrophs" that were reclassified



Figures 8—13. Former hemiparasitic "scrophs" now classified in Orobanchaceae with two holoparasitic members of the family. 8. *Agalinis purpureus*, Purple False Foxglove. 9. *Aureolaria virginica*, Downy Yellow False Foxglove. 10. *Melampyrum lineare*, Cow-wheat. 11. *Pedicularis canadensis*, Lousewort. 12. *Conopholis americana*, Bearcorn. 13. *Epifagus virginiana*, Beechdrops.

with the plantains typically have well-developed aerial stems and showy, insect-pollinated flowers whereas most of the plantains (*Plantago* spp.) have a rosette growth habit (Figure 2) and inconspicuous wind-pollinated flowers (Figure 3). But the DNA evidence is strong, and it is clear that many former "scrophs" are part of the evolutionary lineage that culminated in the plantains (genus *Plantago*). Additional prominent former "scrophs" now classified in Plantaginaceae include: *Antirrhinum* (Common Snapdragon); *Bacopa* (Water Hyssop) (Figure 4); *Digitalis* (Foxglove); *Gratiola* (Hedge Hyssop); *Linaria* (Toadflax) (Figure 5); *Penstemon* (Beard-tongue) (Figure 6); *Veronica* (Speedwell); and *Veronicastrum* (Culver's-root) (Figure 7). Of course, classification of Snapdragons in Plantaginaceae means that there is no longer a "Snapdragon Family!"

The next largest group of former "scrophs" to be placed in a different family is a series of hemiparasitic plants that are now classified in Orobanchaceae. Previously, Orobanchaceae included only holoparasites. Hemiparasites are green and photosynthetic but attach to the roots of a host plant to acquire water and mineral nutrients; in contrast, holoparasites are not photosynthetic and acquire all their sustenance, water, minerals, and organic compounds, from their hosts. DNA has shown the hemiparasitic "scrophs" and Orobanchaceae to constitute a single, common, lineage. Prominent former "scrophs" from Virginia now classified in Orobanchaceae include: *Agalinis* (False Foxglove) (Figure 8); *Aureolaria* (Yellow False Foxglove) (Figure 9); *Castilleja* (Indian Paintbrush), *Melampyrum* (Cow-wheat) (Figure 10); and *Pedicularis* (Lousewort) (Figure 11). Examples of holoparasitic Orobanchaceae native to Virginia include *Conopholis* (Bear Corn) (Figure 12); *Epifagus* (Beech-drops) (Figure 13); and *Orobanche* (Broomrape).

Figure 14. *Torrenia fournieri*, Wishbone Flower, a garden annual and former "scroph" now classified in Linderniaceae.

DNA of two former "scrophs," *Lindernia* (False Pimpernel) and *Micranthemum* (Mudflower), both wetland plants, was found to be sufficiently distinct to justify their placement in family Linderniaceae. Non-native Wishbone Flower (*Torenia*) (Figure 14), cultivated in gardens and escaping rarely, might be a more familiar member of Linderniaceae than either *Lindernia* or *Micranthemum*.

Virginia has two species of *Mimulus* (Monkeyflower) (Figure 15) that were formerly classified in Scrophulariaceae but are now classified with Lopseed (*Phryma*) (Figure 16) in family Phrymaceae.

The taxonomic placement of *Paulownia*, the notoriously invasive Princess Tree (Figure 17), was an unresolved question for a long time. Most often it was classified in either Scrophulariaceae or Bignoniaceae. DNA data now lead to its classification in its own monogeneric family, Paulowniaceae.

So, is there anything left of the old Scrophulariaceae in this era of DNA-informed taxonomy? The answer is, "Yes;" for plants to be

(See Disappearing 'Scrophs', page 4)

Figures 15,16. Phrymaceae. 15. *Mimulus alatus*, Winged Monkeyflower, a former "scroph" now classified in Phrymaceae. 16. *Phryma leptostachya*, Dropseed. Melissa McMasters created the photograph of *Phryma leptostachya* (Figure 16) used here under provisions of the Creative Commons License, https://creativecommons.org/licenses/by/2.0/deed.en.

Figure 17. *Paulownia tomentosa*, Princess Tree, non-native invasive tree sometimes considered a "scroph" in the past, now classified in monogeneric Paulowniaceae.

Figures 18, 19. Scrophulariaceae. 18. *Scrophularia marilandica*, Eastern Figwort. 19. *Verbascum thapsus*, Common Mullein, non-native and invasive.

Disappearing 'Scrophs'

(Continued from page 3)

found in Virginia, there are two genera native to Virginia and two that are non-native. Virginia native Scrophulariaceae are *Limosella* (Mudwort), a somewhat obscure plant from the vicinity of False Cape, southeast Virginia, and *Scrophularia* (Figwort) (Figure 18), two species of which occur in forests widely throughout the state. Non-native Scrophulariaceae that can be found in Virginia include four species of *Verbascum* (Mullein) (Figure 19) and *Buddleja* (Butterflybush). In older classifications *Buddleja* had been placed in Loganiaceae or in its own family, Buddlejaceae.

One might easily conclude from the foregoing that the old, inclusive, Scrophulariaceae has been radically torn asunder by the impact of DNA sequence data and the principles of phylogenetic systematics. On the other hand, from a global perspective, I take a bit more of a nuanced view on this chapter of taxonomic history. Yes, the newly redefined Scrophulariaceae is much smaller than it used to be; globally, the family now contains about 62 genera and 1830 species, down from about 275 genera and 5,000 species in the past. But the vast majority of genera and species of former "scrophs" now reclassified have been assigned to just two different families, either Plantaginaceae or Orobanchaceae, roughly equal numbers of former "scrophs" going to each. And long before DNA data and phylogenetic systematics were adopted, most botanists understood that hemiparasitic "scrophs" were closely related to holoparasitic Orobanchaceae. The real problem with the older taxonomy was that non-green holoparasitic Orobanchaceae look radically different from their hemiparasitic former "scroph" relatives; appearance was over-emphasized and the fundamental significance of degrees of parasitism was not given due weight in the assessment of relationships of these plants. The problem with former "scrophs" now classified in Plantaginaceae was similar; adoption of wind pollination in *Plantago* exerted a sufficiently profound impact on overall appearance of its flowers to obscure their relationships with many former "scrophs." In this case, too, appearance was over-emphasized leaving little reason to link so many former "scrophs" with the plantains. In overview, the vast majority of re-classified "scrophs" were understood to be related to each other, it was just their connection to extreme elements of their two respective lineages that was not appreciated by earlier taxonomists.

Moreover, all these newly reconfigured families with former "scrophs" are still classified in the order Lamiales (mints and, globally, some 25 other related families). Viewed this way, the old taxonomy was, granted, not perfect, but it was not grossly in error, either. The plants included in the old, inclusive, Scrophulariaceae were in need of taxonomic fine-tuning, and that is what the new data and new philosophy about classification accomplished. ❖

Holidays provide time to reflect on VNPS successes

From the President
Nancy Vehrs

With Thanksgiving now in the rearview mirror and the intensive holiday season upon us, it's a good time to express gratitude and reflect on the past year for VNPS.

I am grateful that we have more than 2,900 statewide members and 12 chapters. We're still aiming for 3,000 and hope that some of you will consider giving gift memberships this holiday season. We have interest in chapters for additional areas such as the Fredericksburg area, Abingdon and southwest, and Southside, but we need to ensure that any new chapters are sustainable. In the meantime, those living outside of chapter areas are welcome to affiliate with a chapter of their choice or be a member-at-large.

Our 2023 annual fundraiser that ended in January was a record breaker for us. Thanks to our members, several of whom made very large donations, we raised more than **$85,000** for the Natural Heritage Division to help acquire properties. This year's fundraiser in support of the upgrades to the ***Digital Atlas for the Virginia Flora*** has a modest goal of **$50,000**, but we still need your support to meet our goal. I use the Atlas almost daily when I am online. While the Flora of Virginia App has the digital maps from the Atlas, the app cannot be linked online. In posts on the popular VNPS group on Facebook, adding links to the Atlas enhances the discussions and provides quick references to distributions and photos of our native and nonnative/naturalized plants. Please consider donating to this fundraiser. If you have already donated, I thank you profusely.

White Turtlehead (*Chelone glabra*) was the 2024 Wildflower

of the Year, and I thank Botany Chair John Hayden for another excellent brochure and scientific articles in *Sempervirens*. Publicity Chair Ashley Moulton oversaw our third contest for the design of a Wildflower of the Year T-shirt for White Turtlehead, and we had many entries. The winning artwork by Nick Garnhart of Front Royal includes a bumblebee nectaring on the flower. We generated more than a thousand dollars from these sales through Bonfire without having to hold inventory or fulfill orders ourselves.

For the fourth consecutive year, we held our annual workshop virtually over two evenings in March. Many thanks to our past Education Chair Joey Thompson for finding the excellent speakers and coordinating "Protecting Plants in Virginia Region by Region." These sessions were recorded and are available for viewing on Vimeo through our website.

We had several recipients of our 2024 Botanical Research Grants for three projects totaling $26,238. All of the projects were described in the Summer edition of *Sempervirens*.

A small VNPS team worked hard during this year's General Assembly to address invasive plants and increase funding for natural resource agencies. We managed to pass significant legislation through the GA thanks to the diligent efforts of our volunteer registered lobbyist Tom Smith and Conservation Chair Barbara Ryan. Unfortunately, most of the invasive plant bills were vetoed, but natural resource agencies received significant increases in funding. Details can be found in the Summer *Sempervirens*.

Our website and social media outreach continue to grow. Our VNPS group on Facebook now has an astounding 97,000 members. The reach of our Instagram and Facebook pages continue to increase, and our website is top-notch. I thank all our volunteers who maintain these resources.

I also thank the entire board of directors, chapter boards, donors, and active members who make this organization tick. Happy Holidays to all. ❖

Moulton shares 'Plant Camp' impressions

Ashley Moulton, the Society's Publicity Chair, was given the Mary Painter Memorial Award in honor of Society founder Mary Painter. Ashley received the honor based upon her "exceptional knowledge and capability in the protection and proliferation of native plants." That award sent her to the Cullowhee Native Plant Conference, a unique "plant camp" nestled in the Nantahala Mountains at Western Carolina University.

"I've attended many conferences, but I've never experienced anything like this conference where I joined over 500 native plant enthusiasts from all walks of life, including landscape designers, growers, botanists, land managers, ecologists, and even entomologists. Some of the highlights for me were forming a new network of plant friends throughout the South, going on field trips into the heart of the mountains, and attending a primer on the history of fire and grasslands in the southeastern United States," she said.

VNPS President Nancy Vehrs asked Ashley to elaborate further on her experiences at "plant camp." Her answers are as follows.

Ashley: I wasn't sure what to expect, but the experience felt like a Native Plant Summer Camp—a place I never imagined could exist! Western Carolina University proved to be an incredible host, and the four nights in the dorms with on-campus meals turned out to be the perfect retreat I didn't realize I needed. While I only knew a few people going in, making new friends was effortless. I've stayed in touch with many of them since the conference and look forward to future botanizing adventures together. My first Cullowhee experience was made even more special by receiving this generous scholarship.

Field trip participants at the Cullowhee Native Plant Conference. (Ashley Moulton photo)

Nancy: ***What field trip(s) did you attend and what made them memorable?***

Ashley: As a scholarship recipient, my field trip options were more limited than if I had registered on April 1 (mark your calendar for 2025!) when sign-ups open and field trips are in high demand. Even so, I had the opportunity to join the hike to Panthertown Valley with Preston Montague on the first day, along with a large group, many of whom were also scholarship recipients. Each field trip had its own bus, which made it easy to strike up conversations before we hit the trail.

Unfortunately, the second field trip day was completely booked—no surprise, given the 500+ attendees. But I wasn't alone; plenty of others were in the same situation. With my newfound friends, we managed to cobble together a few carloads of people with their own vehicles and ventured out to a nearby waterfall. I even went for a swim—in my underwear, no less! It turned out to be a spontaneous and unforgettable adventure.

Nancy: ***You're a professional ecologist and have your own niche native plant nursery business. How does Cullowhee manage to appeal to beginner native plant enthusiasts and professionals alike?***

Ashley: I can't quite explain the magic of Cullowhee, but I have to admit something: I've never seen such a diverse mix of people—industry professionals, botanists, and the general public—all coming together like I did at this conference. It was, honestly, inspiring. Around half the folks I met were involved in landscaping in some way, whether they owned or worked for a company, but the crowd also included growers, enthusiasts, conservationists, and many others I never expected. Cullowhee truly feels like the Mecca for native plant enthusiasts in the Southeastern U.S., with some undeniable force drawing everyone to make this annual pilgrimage to the Great Smoky Mountains. If it's not the plants themselves, it's the incredible sense of community this conference has fostered over its 40-year history.

Nancy: ***Tell us more about the grasslands presentation by Dr. Estes and how it affected you. Are you hopeful about saving these ecosystems?***

Ashley: I was particularly moved by a passionate presentation from Dwayne Estes (@segrassland) on the efforts under-

(See Cullowhee, page 7)

Cullowhee

(Continued from page 6)

way to save these highly imperiled ecosystems. Dr. Estes, unfortunately, couldn't make it to the conference this year due to the infamous Microsoft-CrowdStrike crash of July 2024. Despite presenting remotely, his energy and enthusiasm were absolutely infectious. He shared so many fascinating grants and initiatives he's been working on since I last heard him speak—too many to cover here! If you're curious, I highly recommend following the Southeastern Grasslands Initiative; they're doing incredible work. On the topic of fire, Heather Holm's presentation, Oaks, Pines, Fire, and Climate Change, was an outstanding primer on Southeastern U.S. ecology. It was another session that I thoroughly enjoyed and found deeply insightful.

Nancy: ***The Cullowhee conference holds a talent show each year. Did you participate? What were some memorable acts?***

Ashley: I promise I have plenty of talents, but the talent show totally caught me off guard, so I didn't participate. Some highlights, though, were unforgettable! A group played native plant charades, acting out common names like Elephant's Foot and Deer Tongue—imagine trying to guess those in front of a crowd! It was hilarious. There was also a fashion show featuring Cullowhee shirts from nearly every year of the conference's history, which made me wish for a time machine—some of those designs were amazing. Maybe next time, I'll have something fun or creative to contribute!

Nancy: ***Do you know how Cullowhee and the surrounding community were affected by Hurricane Helene? How can we help?***

Ashley: The communities around Cullowhee were not as dramatically affected as those who live in other parts of the mountains, like Asheville, for example. The needs of people affected by the hurricane are very complicated, so it's hard to make a recommendation for how to help. For simplicity's sake you may consider donating to Beloved Asheville, which is a trusted organization. https://www.belovedasheville.com/ ❖

How to make Annual Meeting botany entertaining!

As a non-botanizing spouse of a true believer, I have often accompanied Marjorie to meetings and annual gatherings of the Virginia Native Plant Society. As expected, I attended the recent annual meeting in Massanetta Springs. My primary reasons are for renewing friendships, meeting new members, and enjoying the entertainment, such as it is. This year I found much to enjoy; especially the choice of entertainers.

Friday evening Dr. Andrea Weeks of GMU gave us an intimate look into the life of a Virginia botanist, Lena Artz, who might have been overlooked, except for the persistent sleuthing, determination and knowledge of Dr. Weeks. Starting with a few sketchy documents and Lena's birth and death dates, she filled in the dash between them with the aid of much related research and the fortunate discovery of two overlooked boxes of notebooks, letters and specimens. Dr. Weeks proved to be a master-storyteller, and I, for one, felt the presence of Lena, standing, characteristically on the sidelines, quietly listening to her life's story. Bravo, Dr. Weeks!

Saturday night we were treated to a string trio of five-string banjo, guitar and fiddle, which played and sang authentic Scotch-Irish mountain music. In an age of virtual-everything, I was transfixed by the honesty and reality of musicians only a few feet away from me, enjoying the making of this music as much as I was enjoying hearing it. Thanks again to whomever chose them!

The final entertainment, for me personally, was the opportunity to need the taxi service of a Tidewater cowboy named Kevin, driving an obstreperous golf-cart named 'Stubborn'. I never got to see his nametag, but I learned later that it vaguely had something to do with the question how?

I had real need for a taxi, having accumulated somehow four score and ten years, losing half my hearing and three quarters of my sight along the way. So to find the driver I was advised to go around asking "how?" Finally someone said, "Oh you mean Kevin! That's him over there in the baseball cap." Since half the men were wearing baseball caps I chose to walk up to them and say "Kevin!" He graciously offered to help me--his specialty being hair-raising rides on Stubborn, which had a mind of its own, and would frequently lose interest in the trip and stop wherever it chose. Kevin would whip it into action, and eventually we would arrive at some sort of destination. Rain or shine. Thanks Kevin!

And thanks again to the person or committee that provided the entertainment. I'll be back next year for more of the same!

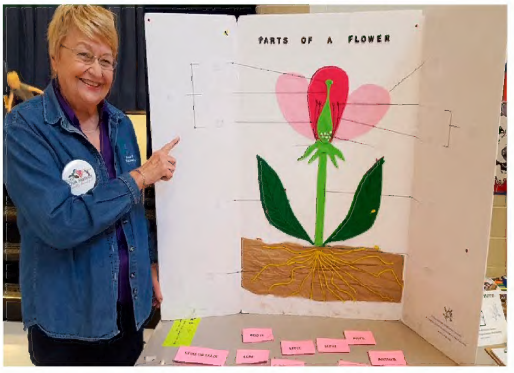
--Jerry Prochaska, VNPS Spouse

Lobstein authors article on notable female botanists

It seems only fitting that a notable female botanist should author an article about some of Virginia's other notable female botanists. And so it is that Marion Lobstein, a founding Society member, as well as a Professor Emeritus at Northern Virginia Community College where she taught for 35 years at the Manassas Campus, has an article that has been published in the Centennial issue of the Virginia Academy of Science's (VAS) *Virginia Journal Science*.

At the 2023 VAS Annual Meeting, the centennial of the establishment of the Academy, Marion delivered a presentation "Some notable women botanists in the VAS: their roles in supporting the development of the modern Flora of Virginia." She was encouraged to expand the presentation into an article for the Academy's journal highlighting the contributions of Lena Artz, Dr. Martha Roane, Dr. Dorothy Bliss, Dr. Donna Ware, and Dr. Andrea Weeks, as well as Marion's own contributions. In the article the importance of the VNPS activities of Bliss, Ware, and Lobstein are noted. "Some Notable Women Botanists in the VAS: Their Roles in Supporting the Development of the Modern *Flora of Virginia*," visit the following link: https://digitalcommons.odu.edu/vjs/vol75/iss1/12/

Marion's botanical accomplishments run deep. She was a charter member of the Prince William Wildflower Society (PWWS) and served on the first Virginia Wildflower Preservation Society (now VNPS) board of directors. She continues to serve as Botany Chair of PWWS and has been a frequent contributor to the PWWS newsletter since 1982. Her articles are now available to read in the "Botanizing with Marion" feature of the VNPS website. Marion was a founding member of the Foundation of the Flora of Virginia Project (FFVP) and served on that board for 20 years. She was gifted a VNPS Life Membership for her work on FFVP and VNPS.



Notable botanist and author Marion Lobstein is one of the Society's founding members.

Since 1977, Marion has been an active VAS member. When she attended her first meeting in 1977, she met Dr. Martha Roane, who chaired the Academy's Flora Committee and learned about the effects of the Flora Committee established in 1926 to develop a modern flora for Virginia. When she first moved to Virginia in 1974, one of her first questions was "Is there a Flora of Virginia?" Having used the *Manual of the Vascular Flora of the Carolinas* when she completed a plant taxonomy class with Dr. Ritchie Bell at UNC-Chapel Hill, she was fascinated by the use of a flora to identify plants. Dr Roane was very welcoming, which encouraged Marion's activity in the Academy and later with the Flora Committee.

Marion also met Dr. Bliss at VAS and later interacted with her as they both came involved with the establishment of VNPS. Dr. Bliss was the first Life Member of the VWPS and a charter member of the Blue Ridge Chapter. She was the first VNPS Registry Chair and instrumental in establishing that program.

Dr. Ware was also an active VAS member, which is where Marion first met her. She was instrumental in the founding of the VNPS John Clayton Chapter and has been active at the Society level including organizing and leading fieldtrips and presenting programs on native plants. She was a charter member of the Foundation of the Flora of Virginia Project and co-authored "A history of Botanical Exploration in Virginia" chapter in the 2012 *Flora of Virginia* manual as well as the current Flora of Virginia App.

Dr. Weeks is a George Mason University Botany Professor and Curator of the Ted Bradley Herbarium. She serves on the current FFVP Board of Directors and has become an expert on the life of Lena Artz and her contributions to botanical knowledge in Virginia. At the 2024 VNPS Annual meeting, Dr. Weeks presented a program on Artz. Dr. Weeks and her students have been the recipients of a number of VNPS grants involving native plants.

Marion has been interested in the information on the life and botanical contributions of Artz that Dr. Weeks has found and shared in a number of programs and writings. Although Marion never met Artz, she was familiar with her exploration of the shale barrens in Fort Valley in Shenandoah County.❖

VNPS, Rappahannock Tribe unite for land and heritage

Powwow image courtesy of the Rappahannock Tribe.

The Virginia Native Plant Society (VNPS) had the pleasure of participating in the Rappahannock Powwow on Saturday, October 12, 2024, in Indian Neck, Virginia. The air was alive with the vibrant energy of the Rappahannock people, welcoming friends and community members from all over the region. It was a time for celebration, learning, and connection—a setting rich with culture and history, which we at VNPS were grateful to be part of.

Melody Mobley, our Diversity, Equity, Inclusion, and Justice (DEIJ) chair, represented VNPS at the event. She was personally invited by Rappahannock Chief Anne Richardson with hopes of fostering a collaborative relationship between our organizations. VNPS holds a deep respect for the Rappahannock people, so Chief Richardson's invitation is a significant and meaningful gesture that underscores the importance of collaboration and mutual respect. VNPS's mission is to educate others about the importance of native plants; however, this event was particularly unique. The Powwow served our education at VNPS, providing an opportunity to listen to and learn from the Rappahannock people, who possess extensive knowledge about the land and its ecological significance.

Melody noted, "It's important that VNPS fosters relationships and learns from the Rappahannock people about their ancestral land and what VNPS can provide that would support and protect the land and its rich history." Melody said that she also enjoyed conversing with Chief Richardson to explore how we could collaborate to safeguard the native plants that contribute to the health of Virginia's ecosystems and the cultural heritage that the Rappahannock people have preserved over generations.

Throughout the day, Melody engaged visitors who asked about VNPS's mission and our work across Virginia, but they were especially interested in how we aim to protect the native species that have flourished here for centuries. With Chief Richardson's encouragement, we are thrilled and hopeful about the potential ways that VNPS can support the Rappahannock people's environmental goals and help protect the ecological legacy of their ancestral lands.

The Rappahannock Powwow reminded us that the strength of our mission grows when intertwined with the stories and wisdom of the people who have lived alongside these plants for centuries. We look forward to continuing this journey with the Rappahannock people, ensuring that our commitment to Virginia's native plants remains aligned with the histories and hopes of the communities who cherish them.

--Aaron Kershaw, VNPS Board Member

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Next submission deadline:
Jan. 30, 2025

Allegheny Chinkapins return to a landscape

Article and images by Nancy Sorrells, *Sempervirens* Editor

In early 2020 we had to clear several thousand square feet of our seven forested acres to install a ground mounted solar array. While it is emotionally painful to simply topple a perfectly healthy forest for any reason, the resulting natural area that is developing has been a true joy to shepherd along, leading to many surprises and discoveries along the way.

We live in the Upper Shenandoah Valley (southeastern Augusta County) and our location up against the western foothills of the Blue Ridge Mountains means that, instead of the rich limestone soils that dominate the valley proper, we live in a landscape of sandy, acidic soil.

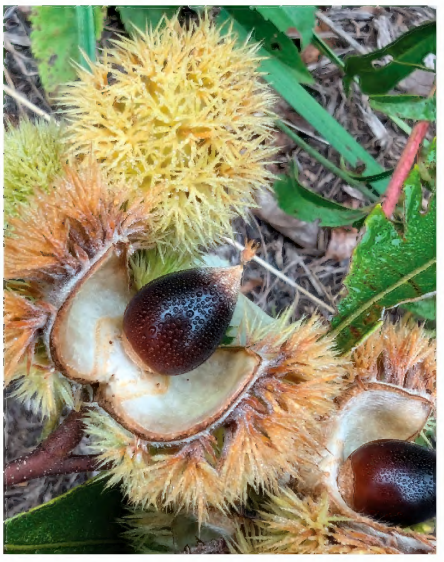
After cutting up all the downed timber and being saddened by the loss of our Mountain Laurel understory, I got to work in "redeveloping" the newly created forest opening. My plan was to define pathways through the natural area and see what sprouted in the spring, removing "unwanteds" (Japanese Honeysuckle and Black Locust for instance), encouraging "wanteds" (Goldenrod, Fringetree, and Boneset for instance), and adding other plants where needed.

One day during the summer of 2020 (what else did we all have to do in the summer of 2020?), when working in the new natural space now referred to as the solar garden, I become very excited to see two small sprouts of what I thought were American Chestnut (*Castanea dentata*) trees. This was not totally unexpected because the roots of these once dominant forest trees remain and keep trying to resprout all throughout the Appalachian Mountains. I had even seen a chestnut sapling get to perhaps eight feet tall elsewhere on our property before succumbing to the chestnut blight.

I took special care of those two tiny sprouts, weeding around the little toothy-leaved seedlings and watching. Soon I began to have my suspicions about their "chestnut-ness." The two little sprouts were thriving and growing larger each year and spreading out (not up) in a very shrub-like manner until there were about two feet across and full of healthy green leaves. I felt more and more like I was probably watching the emergence of a pair of Allegheny Chinkapins (*Castanea pumila*).

That realization did not dampen my enthusiasm for the pair. As a kid, I remember gathering what the locals called "chinkee-pins" (emphasis on the long "e's"!) with a friend. I even recalled a funny story that one old timer told me about his memories of chinkee-pins. The rural area where I live was even more rural one hundred years ago when "Junior," who is long gone now, was a lad. It seems that he and his pals had taken some Mason jars to go chinkee-pin picking.

On the way home, laden with full jars of nuts, Junior and his friends found an old tire to roll down the hill on the dirt road where they lived. To free his hands, Junior stuck the full jar in his back pocket and proceeded to try and jump over the rolling tire. It was all fun until Junior missed a jump and fell backwards, landing squarely on his rear end, breaking the Mason jar, and sending shards of glass deep into his behind. A neighbor scooped up the bleeding boy and summonsed the local doctor who drove out in his Model T and stitched up Junior's backside. Junior lived to be an old man, but always enjoyed telling how his chinkee-pin expedition left him with a life-long "Z" shaped scar on his derriere.



When the burs opened on this shrub in the author's garden, the two sides of the bur that opened to present a single nut told the tale – this was an Allegheny Chinkapin.

Seeing those two shrubs thriving in my garden always sets me to thinking about my friend Junior and this summer I confirmed without a shadow of a doubt that, indeed, I was dealing with Allegheny Chinkapins. First, neither bush sported a true trunk, but were developing nicely as shrubs. This growth pattern fits Chinkapins, which top out at 20 feet, while mature Chestnuts can surpass 100 feet in height. Before the blight that wiped out this species, these trees were the giants of the forest.

And, while the pointed toothy leaves of the two species are similar, there are differences. Chinkapin leaves are usually smaller than Chestnuts. Turn a hairy Chinkapin leaf over and it will appear white, while the Chestnut leaf with fewer hairs, appears as a pale green color.

The final clues to telling the difference between the two species are the burs and the nuts. This year the

(See Chinkapins, page 11)

Mark Murphy's tech skills enhanced Society's work

Mark Murphy

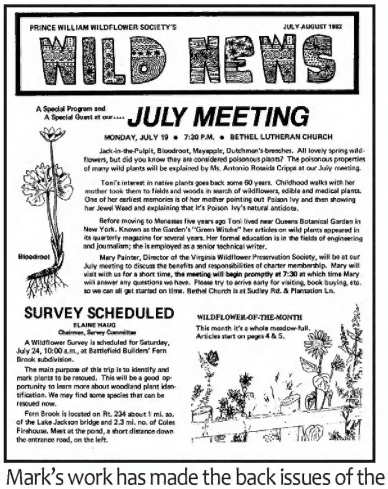
Since 2018 Mark Murphy has used his skills and experience from his extensive professional background in the technology field for VNPS. This involved posting information at the Society level as well as for individual chapters including expanding the VNPS website to include video of society and chapter presentations.

Mark stepped back from the VNPS technology position in November and David Gorsline has taken over his work.

As Prince William Wildflower Society (PWWS) Botany Chair and former Chair of the Education Committee of the Flora of Virginia Project, I would like to thank Mark Murphy for his tech work with VNPS, PWWS, and the Flora of Virginia Project.

In 2022, issues of the PWWS newsletter *Wild News* from 2010 through current issues were available on the PWWS chapter website of VNPS. Nancy Arrington, the co-founder of PWWS and first editor of *Wild News*, had kept copies of the newsletters dating back to 1982 through 2009, which have been scanned. Mark posted them online as well. The issues are rich with articles by Lobstein and Nancy Arrington and botanical illustrations by Nicky Staunton. All issues of *Wild News* can be accessed at: https://vnps.org/princewilliamwildflowersociety/wildnews/. An index of the native plant and gardening articles in the 1982-2009 issues can be viewed at: Index of *Wild News* Native Plant Profile and Gardening Articles 1982-2009.

In 2022, Mark worked with me to reactivate a VNPS website feature "Botanizing with Marion" (https://vnps.org/botanizing-with-marion/). "Botanizing with Marion" provides access to over 40 years of my articles about native plants, botany, and taxonomic history; checklists of Northern Virginia seasonal species and local sites; and various projects including information on the Flora of Virginia Project, the "Spring Wildflowers of the Mid-Atlantic Region" video by Lobstein, deMary, and Lohr, background on *Finding Wildflowers in the Washington Baltimore Area* by Fleming, Lobstein, and Tufty, and other topics.


PRINCE WILLIAM WILDFLOWER SOCIETY'S JULY-AUGUST 1982

WILD NEWS

A Special Program and A Special Guest at our.....

JULY MEETING

MONDAY, JULY 19 • 7:30 P.M. • BETHEL LUTHERAN CHURCH

Jack-in-the-Pulpit, Bloodroot, Mayapple, Dutchman's breeches. All lovely spring wildflowers, but did you know they are considered poisonous plants? The poisonous properties of many wild plants will be explained by Ms. Antonio Rosalia Crippe at our July meeting.

Toni's interest in native plants goes back some 60 years. Childhood walks with her mother took them to fields and woods in search of wildflowers, edible and medical plants. One of her earliest memories is of her mother pointing out Poison Ivy and then showing her Jewel Weed and explaining that it's Poison Ivy's natural antidote.

Before moving to Manassas five years ago Toni lived near Queens Botanical Garden in New York. Known as the Garden's "Green Wrasse" her articles on wild plants appeared in its quarterly magazine for several years. Her formal education is in the fields of engineering and journalism; she is employed as a senior technical writer.

Mary Painter, Director of the Virginia Wildflower Preservation Society, will be at our July meeting to discuss the benefits and responsibilities of charter membership. Mary will visit with us for a short time, the meeting will begin promptly at 7:30 at which time Mary will answer any questions we have. Please try to arrive early for visiting, book buying, etc. so we can all get started on time. Bethel Church is at Sudley Rd. & Plantation Ln.

Bloodroot

SURVEY SCHEDULED

ELAINE HAUG
Chairman, Survey Committee

A Wildflower Survey is scheduled for Saturday, July 24, 10:00 a.m., at Battlefield Builders' Fern Brook subdivision.

The main purpose of this trip is to identify and mark plants to be rescued. This will be a good opportunity to learn more about woodland plant identification. We may find some species that can be rescued now.

Fern Brook is located on Rt. 234 about 1 mi. so. of the Lake Jackson bridge and 2.3 mi. no. of Coles Firehouse. Meet at the pond, a short distance down the entrance road, on the left.

WILDFLOWER-OF-THE-MONTH

This month it's a whole meadow-full... Articles start on pages 4 & 5.

Mark's work has made the back issues of the PWWS newsletter, *Wild News*, accessible on line.

In addition, Mark worked with the Education Committee of the Flora of Virginia Project in 2020-2021 to record, edit, and post seven modules relating to the history and use of the *Flora of Virginia* Manual and App. The Education Committee could not have accomplished the goal of making these modules available to the public without Mark's help. To view these modules, visit https://vnps.org/my-journey-with-the-flora-of-virginia/.

A heart-felt thank you is expressed to Mark for all his contributions to VNPS and its chapters and to the Flora of Virginia Project.

--Marion Lobstein, PWWS Botany Chair & Flora of Virginia Project Education Committee Chair

Chinkapins

(Continued from page 10)

shrubs blossomed, and I anxiously awaited a glimpse at the fruit so I could have proof of their species, although by now I was pretty sure.

The fact that the undersides of the leaves on this shrub were white was yet another clue that the plant was , indeed, an Allegheny Chinkapin.

As you might suspect from other comparisons between these species, Chestnuts are bigger than Chinkapins. Both have spikey burs that surround the actual nut. It is when the nut is completely ripened and the burs open to reveal the nuts inside the bur that a firm conclusion can be made.

It seems that when the Chestnut bur opens, it has four sides or valves that part to show three nuts inside. The Chinkapin bur is a bivalve meaning it only has two sides that open to a single nut

Late this summer I went out to check my plants and, lo and behold, the burs had opened just like a bivalve clam to reveal a single beautiful dark chocolate colored nut. Welcome back to the landscape you two Allegheny Chinkapins – the wildlife buffet table has reopened. ❖

Katherine Smith remembered as native plant champion

Katherine Smith

It is with deep sadness that we announce the passing, on Oct. 1 at the age of 84 of native plant pioneer Katherine Raiford Smith of Rockbridge County. Katherine was the founder and past president of the Society's Upper James River Chapter.

In a 2016 commendation, Katherine was described as "a visionary in the natural world with a mission to help people learn about native plants and their ecological importance." According to her obituary, she labored mightily to make the Buena Vista Visitors Center a haven of native vegetation and was undeterred when some referred to her efforts as "weeds."

A birthright Quaker, Katherine was born in Franklin on April 19, 1940, and followed family tradition by attending Westtown School. She earned a B.A. from Westhampton College of the University of Richmond and a master's in library science from Drexel.

She served as a librarian in Tompkins-McCaw Library of the Medical College of Virginia and then was put in charge of the library of the Virginia Institute for Scientific Research. She was next appointed head of the Science Library of the University of Richmond's Boatwright Memorial Library.

Always a dedicated gardener, Katherine left the library profession and moved to a rural property in Rockbridge County where she experimented to her heart's content in growing fruits and vegetables with a special interest in native plants. Joining the Seed Savers Exchange (and occasionally appropriating roadside seeds and seedlings while traveling), she was always eager to see how new vegetation would fare in Rockbridge County. One outcome of many was her "date persimmon tree" that produces a unique dark sweet, elongated fruit.

Katherine also nurtured to maturity several magnolia trees that were the result of crossbreeding experimentation done in cooperation with Lewis Ginter Botanical Garden. Early in that garden's history, Katherine helped start its botanical library.

The Society was fortunate to have her as a leader, and we mourn her passing. ❖

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